

REMARKS

The Office Action dated June 26, 2008 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-30 are currently pending in the application and are respectfully submitted for consideration.

Claim Rejections under 35 U.S.C. § 102

The Office Action rejected claims 1-21, 23-24, and 26-30 under 35 U.S.C. § 102(e) as being allegedly anticipated by Erimli (U.S. Patent No. 6,980,520) (“Erimli”). The rejection is respectfully traversed for at least the following reasons.

Claim 1, upon which claims 2-10 are dependent, recites a method of managing flow of datagram traffic. The method includes providing a first networked device that is operably connected to a second networked device, and transferring datagrams from a first port of the first device to a first port of the second device using a pathway that is operably connected to a second port of the first device and a second port of the second device. The method further includes selectively pausing an individual port on the first device that is causing over-subscription of the first port of the second device, and transferring datagrams from a third port of the first device to the first port of the second device using the pathway that is operably connected to the second port of the first device and the second port of the second device, while the individual port on the first device is paused.

Claim 11, upon which claims 12-20 are dependent, recites a method of managing flow of datagram traffic. The method includes providing a first networked device that is operably connected to a second networked device, and transferring datagrams from a first port of the first device to a first port of the second device using a pathway that is operably connected to a second port of the first device and a second port of the second device. The method further includes signaling the first port of the first device to send fewer datagrams to the first port of the second device when an over-subscription is detected at the first port of the second device, and transferring datagrams from a third port of the first device to the first port of the second device using the pathway that is operably connected to the second port of the first device and the second port of the second device, while the first port of the first device is sending fewer datagrams to the first port of the second device.

Claim 21, upon which claims 22-23 are dependent, recites a communications system, which includes a first data distribution means operably connected to a second data distribution means, and a first communications means for transferring datagrams from a first port of the first data distribution means to a first port of the second data distribution means. The system further includes control means for selectively pausing individual ports that are causing over-subscription of the first port of the second data distribution means, and means for transferring datagrams from a second port of the first data distribution means to the first port of the second data distribution means, while the individual ports are paused.

Claim 24, upon which claims 25-26 are dependent, recites a communications

system, which includes a first data distribution means operably connected to a second data distribution means for distributing datagrams over a network, and first communications means for transferring the datagrams from a first port of the first data distribution means to a first port of the second data distribution means. The system further includes control means for signaling the first port of the first data distribution means to send fewer datagrams to the first port of the second data distribution means when an over-subscription is detected at the first port of the second data distribution means, and means for transferring datagrams from a second port of the first data distribution means to the first port of the second data distribution means, while the first port of the first data distribution means is sending fewer datagrams to the first port of the second data distribution means.

Claim 27 recites a communications system, which includes a first device operably connected to a second device, and a first controller configured to transfer datagrams from a first port of the first device to a first port of the second device. The system further includes a second controller configured to selectively pause individual ports in the first device that are contributing to over-subscription of the first port of the second device. The first controller is further configured to transfer diagrams from a second port of the first device to the first port of the second device, while the individual ports are paused.

Claim 29 recites a communications system, which includes a first device operably connected to a second device, and a first controller configured to transfer datagrams from a first port of the first device to a first port of the second device. The system further

includes a second controller configured to signal the first port of the first device to send fewer datagrams to the first port of the second device when an over-subscription is detected at the first port of the second device. The first controller is further configured to transfer datagrams from at least a second port of the first device to the first port of the second device, while the first port of the first device is sending fewer datagrams to the second port of the second device.

As will be discussed below, Erimli fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Erimli discloses a network device that controls the communication of data frames between stations receives data frames from a number of stations. The network device detects a congestion condition associated with processing the received data frames and generates a pause frame including source address information relating to the source of the congestion. The network device transmits the pause frame to a second network device. The second network device identifies the source address included in the pause frame and suspends transmission of data frames with that source address to the network device. (see Erimli at Abstract).

Applicants respectfully submit that Erimli fails to disclose, teach, or suggest, all of the elements of the present claims. For example, Erimli fails to disclose, teach, or suggest, at least, “*selectively pausing an individual port on the first device that is causing over-subscription of the first port of the second device,*” as recited in independent claim 1, and similarly recited in independent claims 21 and 27; and “*signaling the first port of*

the first device to send fewer datagrams to the first port of the second device when an over-subscription is detected at the first port of the second device,” as recited in independent claim 11, and similarly recited in independent claims 24 and 29.

As described above, Erimli discloses a network device which detects a congestion condition associated with processing received data frames, generates a pause frame including source address information relating to the source of the congestion, and transmits the pause frame to a second network device. Erimli further discloses that the second network device identifies the source address included in the pause frame and suspends transmission of data frame with that source address to the network device. (see Erimli at Abstract). However, as will be discussed in detail, Erimli fails to disclose, or suggest, selectively pausing an individual port that is causing an over-subscription of a port. Furthermore, Erimli also fails to disclose, or suggest, signaling a port to send fewer datagrams when an over-subscription is detected.

At a high level, Erimli discloses a packet switched network 100 which includes network stations 110, a network node 150, and multiport switches 180. (see Erimli at col. 3, lines 3-10). Each network station 110, and the network node 150, sends and receives data to and from a multiport switch 180. (see Erimli at col. 3, lines 16-18). Erimli further discloses that a multiport switch 180 includes a receiver 205 and a transmitter 210, where the receiver 205 includes input ports and where the transmitter 210 includes output ports. The input ports and output ports may include expansion ports which permit

the multiport switches 180 to be cascaded together to form a backbone network. (see Erimli at col. 4, lines 28-66).

At a lower level, Erimli discloses that a conventional MAC control pause frame is modified to include a source address field relating to the source of congestion. (see Erimli at col. 6, lines 65-67). Erimli further discloses that the MAC control pause frame includes a source field 610 that identifies the source address associated with the frame causing the congestion (i.e. the address of the resource that sent the frame causing the congestion). (see Erimil at col. 10, lines 3-5). The Office Action took the position that “an individual port of the first [networked] device” and “a port of the first [networked] device,” as recited in the present claims reads on the “source address” disclosed in Erimli. (see Office Action at page 3 (“Column 1, lines 54-64 disclose a pause response that is sent to the first to stop the transmission through specific address/port.”)). Applicants respectfully submit that this position is erroneous. As the “Background Art” section of Erimli makes clear, the “source address” is the network address of the station or network node that transmits the packet, not the port address of a port of the multiport switch. Specifically, the “Background Art” section discloses that:

When all of the stations connected to the network are simultaneously operating and transmitting data at high speeds, data traffic on the switch may become heavy. ... For example, when some sort of congestion on the switch occurs, the switch may transmit a media access control (MAC) control pause frame to stations connected to the switch. The pause frame instructs the stations receiving the pause frame to stop sending data for a period of time. A drawback with [pause frame] schemes, is that a switch is unable to selectively suspend data transmissions from a network station that is included in the network without suspending data transmission from other

network stations connected to the switch. (see Erimli at col. 1, lines 32-50, emphasis added).

Thus, Erimli does not teach that a source address is associated with a specific port of the multiport switch. Instead, Erimli teaches that a source address is associated with a specific station or network node. Thus, MAC control pause frame does not include any information associated with a specific port, but instead includes information associated with a specific station or network node.

Erimli further discloses performing process control regarding multiport switches 180A and 180B. Erimli discloses that while network stations 110 and node 150 are transmitting data packets to the multiport switch 180, the multiport switch 180 experiences congestion. (see Erimli at col. 8, lines 52-57). The output control queue 240 transmits a congestion signal to flow control logic 225, which indicates the source address of the packet that caused the congestion. (see Erimli at col. 9, lines 33-39). The flow control logic 225 receives the congestion signal with the source address information and performs an address lookup to determine the port on which the data frame associated with the source address was received. The flow control logic 225 then generates a MAC control pause frame including the source address information. (see Erimli at col. 9, lines 50-58). The multiport switch 180A then transmits the MAC control pause frame via the particular port identified by the flow control logic to multiport switch 180B. (see Erimli at col. 10, lines 16-18). The multiport switch 180B then suspends transmissions to multiport switch 180A of data frames with the source address. Thus, multiport switch

180A does not suspend a specific port of multiport switch 180B when multiport switch 180A detects a congestion situation. Instead, multiport switch 180A suspends all traffic associated with a specific source address that passes through multiport switch 180B. In other words, the port of multiport switch 180B which transmitted the frame that caused the congestion in multiport switch 180A is still allowed to transmit data to multiport switch 180A, as long as the data is not associated with the specific source address which sent the frame that caused the congestion.

In summary, the cited portions of Erimli fail to disclose, or suggest, pausing a specific port of the multiport switch device, or signaling a specific port of the multiport device to send fewer data packets. Thus, Erimli fails to disclose, or suggest, “*selectively pausing an individual port on the first device that is causing over-subscription of the first port of the second device,*” as recited in independent claim 1, and similarly recited in independent claims 21 and 27; and “*signaling the first port of the first device to send fewer datagrams to the first port of the second device when an over-subscription is detected at the first port of the second device,*” as recited in independent claim 11 and similarly recited in independent claims 24 and 29.

Therefore, for at least the reasons discussed above, Erimli fails to disclose, teach, or suggest, all of the elements of independent claims 1, 11, 21, 24, 27, and 30. For the reasons stated above, Applicants respectfully request that this rejection be withdrawn.

Claims 2-10 depend upon independent claim 1. Claims 12-20 depend upon independent claim 11. Claim 23 depends upon independent claim 21. Claim 26 depends

upon independent claim 25. Claim 28 depends upon independent claim 27. Claim 30 depends upon independent claim 29. Thus, Applicants respectfully submit that claims 2-10, 12-20, 23, 26, 28 and 30 should be allowed for at least their dependence upon independent claims 1, 11, 21, 24, 27, and 29, respectively, and for the specific elements recited therein.

Claim Rejections under 35 U.S.C. § 103

The Office Action rejected claims 22 and 25 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Erimli, in view of Leach, JR et al. (U.S. Publication No. 2002/0089994) (“Leach”). The Office Action took the position that Erimli discloses all the elements of the claims with the exception of “wherein the second communication means is non-lossy.” The Office Action then cited Leach as allegedly curing the deficiencies of Erimli. (see Office Action at pages 14-15). The rejection is respectfully traversed for at least the following reasons.

The description of Erimli, as discussed above, is incorporated herein. Leach discloses a communications system including a scheduling entity and a transceiver coupled across a variable timing interface. The scheduling entity forwards frame for transmission and identifies selected frames as persistent. The transceiver includes a queue, a frame manager and a transmission scheduler. The frame manager receives and enqueues forwarded frames. The transmission scheduler dequeues and transmits frames from the queue and forwards persistent frames back to the frame manager. The

transmission schedule includes persistence logic that detects a persistent mark and asserts a persistent signal that is detected by the transmission scheduled. The scheduling entity identifies a persistent frame by setting a bit in a transmit control field of the frame descriptor. The scheduling entity sends a clear persistence command to the transceiver to clear a persistent mark of an identified frame. (see Leach at Abstract).

Claims 22 and 25 depend upon independent claims 21 and 24, respectively. As discussed above, Erimli does not disclose, teach, or suggest all of the elements of independent claims 21 and 24. Furthermore, Leach does not cure the deficiencies in Erimli, as Leach also does not disclose, teach, or suggest, at least, “*control means for selectively pausing individual ports that are causing over-subscription of the first port of the second data distribution means,*” as recited in independent claim 21; and “*control means for signaling the first port of the first data distribution means to send fewer datagrams to the first port of the second data distribution means when an over-subscription is detected at the first port of the second data distribution means,*” as recited in independent claim 24. Thus, the combination of Erimli and Leach does not disclose, teach, or suggest all of the elements of claims 22 and 25. Additionally, claims 22 and 25 should be allowed for at least their dependence upon independent claims 21 and 24, respectively, and for the specific elements recited therein.

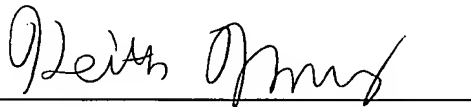
For at least the reasons discussed above, Applicants respectfully submit that the cited prior art references fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention

unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-30 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Keith M. Mullervy
Attorney for Applicant
Registration No. 62,382

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY L.L.P.
14th Floor
8000 Towers Crescent Drive
Vienna, Virginia 22182-6212
Telephone: 703-720-7800
Fax: 703-720-7802

KMM:dk